APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,528	12/07/2001	Pankaj K. Jha	0325.00524	8197

21363 7590 11/09/2004	EXAMINER
CHRISTOPHER P. MAIORANA, P.C. 24840 HARPER ST. CLAIR SHORES, MI 48080	TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/017,528	JHA, PANKAJ K.
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 June 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) <u>9-13 and 15</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-8,14 and 16-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail. Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   The Applicant contends, "the language of dependent claim 7 in Group I is similar to that of independent claim 9 in Group 11. Ongoing prosecution of claim 7 is evidence that no serious burden exists to prosecute claim 9". Claim 7 and claim 9 are still distinct and since independent claims inherit the claim language of the claims from which they depend claim 7 is still directed to delineating a frame performed at a transmitter whereas claim 9 is directed to creating a frame performed at a transmitter. The Examiner asserts that if a class search is done on the relevant classes for the two inventions (714/758,774,775,776,779,798), there are currently 2144 patents which the Examiner must evaluate for relevance, which places a serious burden on the Examiner.

This application contains claims 9-13 and 15 drawn to an invention nonelected with traverse in Paper No. 4 filed 04/02/2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

2.   The drawings are objected to because of handwriting (handwriting is not clearly legible, for example; the reference numeral for CRC in Figure 1 is not clear and can be interpreted as '10'; Figures 2-8 have similar problems). A

proposed drawing correction or corrected drawings are required in reply to the

Office action to avoid abandonment of the application. The objection to the

drawings will not be held in abeyance.

Applicant is advised to employ the services of a competent patent draftsperson

outside the Office, as the U.S. Patent and Trademark Office no longer prepares

new drawings. The corrected drawings are required in reply to the Office action

to avoid abandonment of the application. The requirement for corrected drawings

will not be held in abeyance.

Claim Objections

3.   Claim 14 is objected to because of the following informalities: the

preamble of claim 14 recites "An apparatus". 37 CFR 1.75 states the

"specification must conclude with a claim particularly pointing out and distinctly

claiming the subject matter which the applicant regards as his invention or

discovery. Claim 14 should be rewritten so that it is clear what the Applicant

regards as his invention. The Examiner asserts that claim 15 appears to be a list

of steps and it is not clear to what the invention is directed to nor what the list of

steps is useful for. The Examiner suggests replacing the preamble with --An

apparatus for delineating a frame--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4.   Claims 2-5 and 16-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 2-5 and 16-20 introduce new matter not previously disclosed.

Response to Arguments

5.   Applicant's arguments filed 30 June 2004 have been fully considered but they are not persuasive.

The Applicant contends, "Agarwal and Doshi, alone or in combination, do not appear to teach or suggest a step for receiving a frame comprising a length field storing a length value for a combined length consisting of a payload field and a payload error detection field as presently claimed".

The Examiner disagrees and asserts that the bottom of Col. 6 and the top of col. 7 in Agarwal teach that SIZEO 264 contains the variable size defining the space within the data payload and the CODING field represents a suggested value of the number of octets which are reserved for forward error correction. The Examiner asserts that, if the size of the variable portion is known, then the length of the combined payload field and a payload error detection field is also known

since the length of the payload error detection must be known for error correction purposes, hence specifying the length of the variable portion is inherently equivalent to specifying the total length (Note: col. 6, lines 33-36 in Agarwal teaches that the data payload 240 has a variable length which depends on the size of the forward error correction code 250). In addition, paragraph [0011] of Doshi teaches the LI field indicates total length. Hence, both Agarwal and Doshi, teach a step for receiving a frame comprising a length field storing a length value for a combined length consisting of a payload field and a payload error detection field. See, e.g., In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971).

The Applicant contends, "Nowhere in the above text, or in any other section, does Agarwal appear to discuss a step for retrieving a payload data and a payload error detection data from a frame based on (i) a length value and (ii) in response to passing an error detection on the length value as presently claimed". The Examiner disagrees and asserts that col. 17, lines 54-60 in Agarwal explicitly teaches that the length field is used at the receiving terminal for reassembly, hence Agarwal teaches the length field is used for retrieving a payload data and a payload error detection data from a frame since reassembly of frame is a first step for retrieving a payload data and a payload error detection data. In addition, col. 7, lines 44-50 in Agarwal explicitly teaches that the length field provides an indication of the level of error correction used in an adaptive error correction

system. The length field is a means in Agarwal of indicating the amount of error

correction used (Note: in order to extract payload data from the frame the amount

of error correction must be known, hence the length field is necessary for

retrieving a payload data and payload error detection data from a frame and col.

7, lines 51-57 in Agarwal explicitly teach the adaptive coding scheme selects the

optimal forward error correction code length and that the decoding and coding is

based upon the forward error correction code length). In addition, the Examiner

asserts that one of ordinary skill in the art at the time the invention was made

would have been highly motivated to use a Header CRC, i.e., a length error

detection value, in order to provide protection for important control information

contained in the header. Note also, that col. 2, lines 38-44 of Doshi teach that

the receiver performs self synchronization or packet recovery as a function of the

LI field and the Header CRC and that the Header CRC is used to perform error

detection on the SDL header, hence Doshi teaches performing an error detection

on the length value (Length indicator L1 in Figure 1 of Doshi) based upon the

length error detection value (Header CRC in Figure 1 of Doshi). Hence Agarwal

and Doshi explicitly teach retrieving a payload data and a payload error detection

data from a frame (Note: in order to extract payload data from the frame the

amount of error correction must be known, hence the length field is necessary for

retrieving a payload data and payload error detection data from a frame and col.

7, lines 51-57 in Agarwal explicitly teach the adaptive coding scheme selects the

optimal forward error correction code length and that the decoding and coding is

based upon the forward error correction code length) based on (i) a length value

and (ii) in response to passing an error detection on the length value (col. 2, lines 38-44 of Doshi).

The Applicant contends, "The alleged motivation on page 8 of the Office Action 'to provide protection for important control information contained in the header' was not credited to Agarwal, Doshi or knowledge generally available to one of ordinary skill in the art".

The Examiner disagrees and asserts that the purpose of CRC is to provide protection and Figure 1 of Doshi teaches Header CRC for protecting the length indicator (LI). The abstract of Doshi teaches that the LI field is critical for packet recovery and reassembly, hence Doshi explicitly teaches Header CRC is critical for providing protection for important control information contained in the header required for packet recovery and reassembly.

The Applicant contends, "Agarwal and Doshi, alone or in combination, do not appear to teach or suggest a step for marking a start of a payload field in response to an intermediate error detection value matching a received value".

The Examiner disagrees and asserts that the bottom of Col. 6 and the top of col. 7 in Agarwal teach that SIZEO 264 contains the variable size defining the space within the data payload and the CODING field represents a suggested value of the number of octets which are reserved for forward error correction. The Examiner asserts that, if the size of the variable portion is known, then the length of the combined payload field, the length and start of the payload error detection

field is also known and the length and start of the payload field since the length of

the payload error detection must be known for error correction purposes, hence

specifying the length of the variable portion is inherently equivalent to specifying

the total length and can inherently be used to determine the length of the

combined payload field, the length and start of the payload error detection field is

also known and the length and start of the payload field (Note: col. 6, lines 33-36

in Agarwal teaches that the data payload 240 has a variable length which

depends on the size of the forward error correction code 250). See, e.g., In re

Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and In

re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971).

The Applicant contends, "Agarwal and Doshi, alone or in combination, do not

appear to teach or suggest a step for separating a payload data from a payload

error detection data base upon both a length value and a predetermined value as

presently claimed". Both Agarwal and Doshi teach systematic codes whereby

payload data and error detection data are separated from each other. As pointe

out above, the bottom of Col. 6 and the top of col. 7 in Agarwal teach that SIZEO

264 contains the variable size defining the space within the data payload and the

CODING field represents a suggested value of the number of octets which are

reserved for forward error correction. The Examiner asserts that, if the size of

the variable portion is known, then the length of the combined payload field, the

length and start of the payload error detection field is also known and the length

and start of the payload field since the length of the payload error detection must

be known for error correction purposes, hence specifying the length of the variable portion is inherently equivalent to specifying the total length and can inherently be used to determine the length of the combined payload field, the length and start of the payload error detection field is also known and the length and start of the payload field (Note: col. 6, lines 33-36 in Agarwal teaches that the data payload 240 has a variable length which depends on the size of the forward error correction code 250). See, e.g., In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971).

The Applicant contends, "each of Agarwal, Doshi and Zhu appear to be silent regarding generation of a second frame incorporating the data from a first frame". The Examiner disagrees and asserts that col. 9, lines 19-26 in Agarwal teach that size of error correction, i.e., length, is determined using BER. One of ordinary skill in the art at the time the invention was made would have known BER is calculated from previous transmissions including a previous first frame.

The Examiner disagrees with the applicant and maintains all rejections of amended claims 1-8 and 14. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that amended claims 1-8 and 14 are not patentably distinct or non-obvious over the prior art of record in view of the references, Agarwal; Anil K. et al. (US 6477669 B1, hereafter referred to as Agarwal), Doshi, Bharat Tarachand et al. (EP 942569 A2, hereafter referred

to as Doshi) and Zhu; Qin-Fan (US 5550847 A) as applied in the last office

action, filed 04/02/2004. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1,

148 USPQ 459 (1966), that are applied for establishing a background for

determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-6, 8, 14 and and 16-20 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Agarwal; Anil K. et al. (US 6477669 B1, hereafter

referred to as Agarwal) in view of Doshi, Bharat Tarachand et al. (EP 942569 A2,

hereafter referred to as Doshi).

35 U.S.C. 103(a) rejection of claims 1-6, 8 and 14.

See the Non-Final Action filed 04/02/2004 for detailed action of prior rejections.

35 U.S.C. 103(a) rejection of claim 16.

Frame disassembler 140 in Figure 1B of Agarwal is a counter configured to

generate a select signal based upon both said length value and a predetermined

value; and a demuïtiplexer configured to generate (i) a first signal carrying said

payload data and (i) a second signal carrying said payload error detection data

based on said select signal (col. 17, lines 54-60 in Agarwal explicitly teaches that

the length field is used at the receiving terminal for reassembly).

35 U.S.C. 103(a) rejection of claim 17.

Frame disassembler 140 in Figure 1B of Agarwal is a buffer circuit configured to

buffer a plurality of received bytes transferring said frame.

35 U.S.C. 103(a) rejection of claims 18-20.

Agarwal and Doshi teach buffering a plurality of received bytes (De-Interleaver

RAM 1060 in Figure 4 of Agarwal is a buffer for buffering a plurality of received

bytes);

calculating an error detection value from a first predetermined group of said

received bytes; comparing said error detection value with a value defined by a

second predetermined group of said received bytes (Step 520 in Figure 6 of

Doshi is a CRC check for calculating an error detection value from a first

predetermined group, i.e., the SDL header, of said received bytes and comparing

said calculated error detection value with a value defined by a second

predetermined group, i.e., the Header CRC, of said received bytes; Note: the

standard algorithm used for CRC checking at the receiver requires that the CRC

be recalculated again from the error protected bits); and marking a start of said

frame in response to said error detection value matching said value (the Abstract

in Doshi teaches that the length indicator is used in self-delineation of the frame).

7.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Agarwal; Anil K. et al. (US 6477669 B1, hereafter referred to as Agarwal) and

Doshi, Bharat Tarachand et al. (EP 942569 A2, hereafter referred to as Doshi) in

view of Zhu; Qin-Fan (US 5550847 A).

35 U.S.C. 103(a) rejection of claim 7.

See the Non-Final Action filed 04/02/2004 for detailed action of prior rejections.

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**.

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as

set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed

within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the date of this
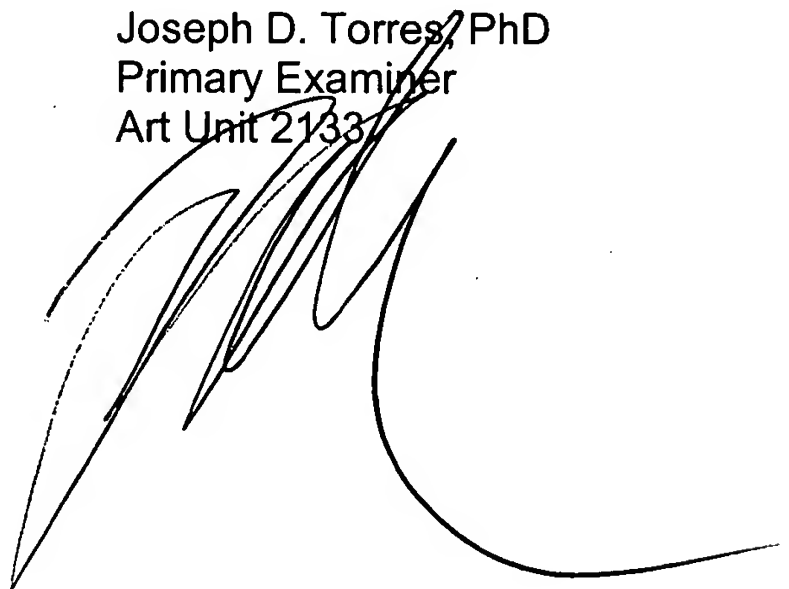
final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph D. Torres whose telephone number is

(571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone

number for the organization where this application or proceeding is assigned is

703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

Joseph D. Torres/PhD
Primary Examiner
Art Unit 2133